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## TRACKING

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*Tracking* refers to the practice of grouping students according to achievement levels, either between or within classrooms, for the purposes of instruction. The term *ability grouping* is frequently used in place of tracking, especially when discussing within-class tracking in elementary school, and British researchers often use the term *streaming* in place of tracking. The official rationale behind the practice of tracking is that by grouping students of similar achievement for instruction, classroom instruction will be more appropriately tailored to students' needs, and both high- and low-track students will experience more rapid achievement growth. However, research shows that, in reality, tracking tends to increase educational inequality, with low-track students learning less and high-track students learning more than students in regular (middle) or untracked classrooms. This entry summarizes research that helps to explain the contribution of tracking to educational inequality. Tracking provides a powerful institutional status marker that affects both teacher and student behavior, and consequently the quality of instruction in tracked classrooms.

### **Magnifying Initial Differences in Student Achievement**

The early research on tracking was frequently concerned with whether or not the track placement process

was meritocratic and with describing students' opportunity for upward mobility. Are track placements based on legitimate criteria such as achievement and effort, or do particular groups of students have an unfair advantage in securing placement in the college-prep track, whereas other groups of students are relegated to low-track classrooms? Once a student is in the low track, what opportunity does he or she have to move into a college-prep curriculum? As James Coleman articulated in the introduction to Alan Kerckhoff's landmark book *Diverging Pathways*, in order for structural differentiation of students to lead to growing educational inequality, there need not be any bias in the assignment of students to learning environments within or between schools. If learning environments differ in their *intensity*, then increasing inequality could result even if assignment and opportunities for mobility are completely based on student achievement levels. In other words, differences in the quality of instruction in tracked classrooms will lead to growing educational inequality no matter how students are assigned to those tracks. This observation is essential to understanding the role of tracking in producing educational inequality.

It turns out that track placements from year to year are, in fact, mostly meritocratic; they are determined in large part by the achievement level of students. For example, most of the difference in the track placements of students from different race/ethnic groups can be explained by differences in students' grades and test scores when track decisions are made. Students from advantaged family backgrounds appear to have somewhat of a nonmeritocratic advantage in securing high-track placements, but most of the total difference in track placements among students from advantaged and disadvantaged backgrounds is still due to levels of achievement. Nevertheless, tracking makes an important contribution to growing educational inequality as students of differing initial achievement progress through school. Among Black and White students, for example, initial differences in achievement are magnified as White students progress through school in intense, high-track learning environments, and Black students in less-intense, low-track classrooms. By the time Black and White students leave high school, the initial achievement gap has doubled.

Certainly, instruction in some low-track classrooms is of high quality and is as effective as instruction in many high-track classrooms. But on average, low-track classrooms represent significantly reduced

learning opportunities for students. One study by Adam Gamoran of the effect of track differences found that the difference in achievement growth in high school among tracked classrooms was greater than that between high-school dropouts and students who stayed in school. Tracking does little to affect the average level of achievement in a school as a whole, but it has a powerful effect on the distribution of achievement and contributes to enduring educational problems of minorities and those from disadvantaged backgrounds. The remainder of this entry summarizes research that illuminates why low-track classrooms are frequently less effective learning environments than high-track classrooms.

### **Students' Reactions to Tracked Learning Environments**

Low-track students are frequently found to be inattentive, withdrawn, and disruptive. The lack of engagement during classroom instruction and more general disinterest in school activities can be traced to (a) the lack of incentives for high performance in low-track classrooms; (b) negative peer group processes that exacerbate misbehavior and disidentification with school; and, as discussed in the next section, (c) deteriorating relationships with their teachers.

#### ***Lack of Incentives***

An obvious explanation for disengagement among low-track students, and one that is frequently articulated by teachers, is the lack of educational incentives for performance in low-track classrooms. It is easy for adults to forget, but especially younger students, that the material benefits of education, such as a steady job with fair pay, lie in the distant future and don't factor very heavily in their day-to-day attitudes toward schooling. In the absence of an immediate material payoff, teachers rely on grading systems to communicate expectations and foster motivation. Tracking systems undermine the utility of grades in low-track classrooms because they give students a clear status assignment at the start of the year, before any effort has been exerted. For college-bound students, the admissions process gives students a strong incentive to pursue high grades. But for low-track students, most of whom will enter the workforce after school, there are few institutional linkages between high school and the workforce that reinforce performance in school. It

simply does not make much difference whether a low-track student receives an A or a B, or even a C. Grade-weighting schemes, which give extra points for high-track coursework, further erode the incentive for low-track students to perform in school because the system is "rigged" against them.

The link between incentives and student behavior was well-illustrated in a study by Francis Schwartz. Schwartz observed both high- and low-track middle school students throughout the course of their day. As they moved from formal instruction in core academic subjects to gym, art, and other elective classes, Schwartz noticed an interesting pattern of behavior. High-track students were just as likely to misbehave as low-track students, but only during informal instructional time that did not affect their future educational trajectory. In contrast, high-track students were highly responsive to teacher directives and sanctions during formal class time, whereas low-track students misbehaved and failed to complete classroom tasks. The track system, by removing any incentive for performance among low-track students, strips the low-track teacher of most of his or her authority.

#### ***Negative Peer Group Effects***

The differentiation-polarization theory of Andrew Hargreaves and Colin Lacey suggests that peer group interactions exacerbate antischool behavior among low-track students. Differentiation-polarization theory is an example of a more general social identity theory of behavior applied to status differences among tracked students. Because low-track students are labeled as low achieving by the school system, they need to look elsewhere for a positive self-image. As they develop alternatives to school achievement, such as accomplishments in athletics, working on cars, and being a sought-after date on the weekend, they develop group dynamics that support their chosen alternative methods of obtaining this positive self-image. These group dynamics include monitoring others' behavior and sanctioning students who show an interest in school. Developing alternative sources of success, and really believing in them, requires collective effort, and that effort is undermined by individuals who conform to the school's definition of success.

Students are much more likely to be friends with other students in the same track. Same-track friendships develop in part because of shared social experience, but also because of a shared *reaction* to school.

Over time, student attitudes in different tracks become polarized, with antischool attitudes being concentrated primarily among low-track students. Case studies by Hargreaves and Lacey, and later Stephan J. Ball, illustrated this process. The low-track students they observed did not have antischool attitudes entirely because of their low-track placements, and many low-track students had positive attitudes toward school, but these researchers concluded that tracking greatly polarized the differences in attitudes and behavior between high- and low-track students. Early, small-scale quantitative analyses also provide support for differentiation-polarization theory.

In 1982, Michael D. Wiatrowski and colleagues challenged differentiation-polarization theory, suggesting that perhaps the link between tracking and antischool attitudes was not causal, that low-track students did have antischool attitudes, but they existed prior to their track placements. In their quantitative analysis of 1,620 male students, they found no evidence that tracking contributed to delinquent behavior, once prior delinquency was accounted for. However, their analysis had two methodological flaws. First, 18.7% of the students left the study between their sophomore and senior years, when delinquent behavior was measured as an outcome. If the most delinquent youth dropped out of school or otherwise did not participate, Wiatrowski et al. might have missed track effects due to attrition bias. Second, they considered track effects very late in the schooling process. Presumably, by sophomore year, antischool attitudes are already well developed, and ceiling effects preclude any great increase in the disparity between high- and low-track students' attitudes.

The causal nature of the differentiation-polarization process was later confirmed by John Abraham, who examined pro- and antischool attitudes in a high school setting where track placement was only formalized in the students' second year. He found that there was a dramatic difference in school attachment between high- and low-track students, but that this difference appeared only after students became tracked. In perhaps the most rigorous treatment of this question to date, Mark Berends found small but consistent negative effects of tracking on college expectations, disciplinary problems, and engagement in the last 2 years of high school. Considering the body of research on differentiation-polarization theory, both qualitative and quantitative, Berends finds a clear link between low-track placements and negative peer group effects.

The robust conclusion of tracking research is that by the time students reach high school, the negative effects of low status assignments manifest themselves in the way students think and behave in school settings. Being in low-track classrooms disenfranchises students, and this in turn leads to a lower probability of moving into academic courses in future years and of pursuing further education after high school. A student's expectations and aspirations are closely related to track placement. The reduced aspirations of low-track students are clearly evident in dropout rates. Indeed, track placement itself exerts a strong independent effect on dropping out, stronger even than its effect on achievement alone.

### **Teachers' Reactions to Tracked Learning Environments**

Teachers respond just as negatively to a low-track teaching assignment as students do to being in a low-track classroom. In Reba Page's study of teachers' reactions to tracked learning environments, low-track students are perceived overwhelmingly as "discipline problems," "untrustworthy," and "irritating." As Marilee K. Finley noted, although teachers are not in complete agreement about the desirability of teaching the highest-track classes, they are in agreement about the difficulties of instruction in low-track classrooms. Why do teachers respond so negatively to low-track students?

#### ***A Crisis of Authority***

One explanation, consistent with a lack of incentives for student engagement and effort in low-track classrooms, is that teachers' reactions stem from a crisis of authority in low-track classrooms. As noted previously, teachers have little recourse to force students to be on task or well-behaved, and low-track status designations further undermine the utility of grades. As one teacher in Jeannie Oakes's study said of low-track students, "They don't like me in a position of authority, these children don't like anybody in authority." Of course, antagonistic reactions to authority figures might be expected if teachers and other school personnel consistently identify a student as low status.

Many of the low-track teachers Oakes interviewed believed that the only way to deal with their students was to be excessively punitive. Similarly, the low-track teachers Mary Metz observed responded to their

boisterous low-track students with somewhat stronger disciplinary sanctions than in high-track classrooms. If teachers respond to a disengaged student body by placing an excessive emphasis on discipline, this is likely to strengthen a reciprocal pattern of negative interactions between teachers and students. Beyond that, though, two approaches prevailed in low-track classrooms: a reduction in pressure to succeed in academics, and use of highly structured activities. Low-track teachers believed that highly structured activities like worksheets would help control students, who would quickly get out of hand if given the opportunity. The reduced academic pressure amounted to a bargain of sorts, where the teacher allowed students to be inattentive, or off-task, in the hopes of avoiding more serious rebellion. In formulating and carrying out lesson plans, low-track teachers choose methods that allow them to closely monitor and control student behavior.

### ***A Lack of Cultural Coherence***

Another explanation is that teachers, most of whom were successful as students and who have an appreciation for academic material, have difficulty identifying with low-track students' needs and perspectives. In a case study of a single teacher who taught both high- and low-track English classrooms, Samantha Caughlan and Sean Kelly describe a situation in which a teacher who is quite successful in her high-track classroom fails to provide similarly effective instruction in her low-track classroom. In explaining the disparity, Caughlan and Kelly link a lack of coherence in the low-track classroom, both within the curriculum and with the students' lives, with the teacher's failure to identify with the students' perspectives, interests, and needs. One expression of this is the assumptions that low-track teachers frequently make about their students' family backgrounds. Although low-track teachers want their students to be successful and happy as much as any teacher, they feel held back by their students' home environments, which they believe negatively affect their students' dispositions toward school. For many teachers, a home environment supportive of education is seen as a prerequisite for their own success in the classroom.

Perceptions of students' home environments may act as the basis for a self-fulfilling prophecy for teachers. From the perspective of the teachers Page interviewed, for example, a student's classroom success

hinged not so much on the inherent qualities of the student, but on that student's home environment. Unfortunately, some teachers let their reasoning serve as an excuse for poor outcomes in the classroom. Rather than adopt a particular instructional approach to meet their students' needs in the context of sometimes-difficult home situations, the teachers' instructional approach was tailored around student *limitations*. The basic format and style of instruction was not much different from that in a high-track class. Teachers lectured, had students recite answers, and discussed texts. But class sessions lacked a sense of purpose, were tedious, or frequently veered off-topic and became nonacademic.

### ***The Cumulative Impact of Tracking on Teachers' Work Lives***

Low-track classrooms are a difficult environment for teachers to succeed in both because students are perceived as inherently difficult to teach, and because the students are more likely to have problems with achievement motivation and negative alignments to school in general. Making matters worse, in many schools, teachers are tracked along with the students. The matching of teachers with the hierarchically structured courses for students is known simply as *teacher tracking*. Teachers with less education, experience, and motivation are more likely to be assigned to low-track classrooms. Thus, teacher tracking pairs students who are the most difficult to teach with teachers who, in some ways, are least equipped to be successful. It is not surprising, then, that low-track teachers have a much lower sense of efficacy—their own perception of their ability to succeed in the classroom—than high-track teachers. Consequently, low-track teachers are less satisfied with their work lives. Lower levels of efficacy and satisfaction that persist from one year to the next are likely to further reduce the likelihood that low-track teachers will expend extra energy to reach disengaged students.

### **The Quality of Instruction in Tracked Learning Environments**

Several studies have systematically observed classrooms of differing track levels using comprehensive coding schemes designed to describe the range of classroom activities in which students might engage within the context of English and language arts

classrooms. Using a real-time, computer-based coding scheme, Martin Nystrand and Adam Gamoran recorded the amount of time spent in such activities as lectures, question-and-answer sessions, discussions, seatwork, small group work, student presentations, tests and quizzes, and so on. In general, such basic differences in how high- and low-track classrooms spend their time are relatively small and cannot explain the large differences in achievement growth over the course of the year.

As noted, however, there are differences in instruction that stem from teachers' and students' reactions to tracked learning environments, which help to explain track differences in achievement growth. Two broad instructional problems tend to plague instruction in low-track classrooms: reduced academic content and lack of engaging instruction.

### ***Reduced Academic Content***

Perhaps the clearest example of the reduced academic content of low-track learning environments comes from research on instruction in reading groups in early elementary school. In their studies of reading instruction, Rebecca Barr, Robert Dreeben, and Adam Gamoran measured the vocabulary development of first graders in different reading groups. They found a simple explanation for the reduced achievement growth in low-ability groups: the higher the mean aptitude of the reading group, the more words from the basal readers were likely to be covered, and consequently, more words were learned. This "words taught = words learned" conception of achievement growth is too simple to be applied directly to secondary school classrooms, but the basic insight—that tracking influences the nature of classroom instruction—can be elaborated to understand more nuanced differences in academic content.

"Ever notice how slooow this class is?" Page overheard one student remark to another in a low-track classroom. As Dreeben and colleagues found in first-grade classrooms, research on tracking often finds reduced content coverage. Sometimes, this is quite explicit; for example, many schools have a low-track algebra course designed to cover the same material as a high-track class, but over a 2-year period. It is important to note, however, that evidence shows that the majority of students in low-track math courses would benefit from more rigorous content. One reason for a slower pace and reduced

content coverage is that low-track classrooms spend somewhat less time actually engaged in instruction. The extra class time not spent in instruction is often spent disciplining students or engaged in "procedures and directions." Moreover, low-track classrooms often wander off-topic, reducing academic content further. For example, Nystrand and Gamoran found that high-track classrooms had about the same amount of discussion as low-track classrooms, but the content of low-track classrooms was often off-topic and nonacademic, whereas high-track classes engaged in focused discussions of academic material. Arthur Applebee and colleagues also found that classroom discourse was more closely tied to the curriculum in high-track English classrooms, and that the overall academic demand in classroom tasks was higher.

### ***Less Engaging Instruction***

Perhaps more important than the sheer amount of academic content in secondary school classrooms is whether this content is delivered in an engaging manner. Nystrand and Gamoran detail the rote nature of low-track teachers' approach to English instruction. Within the broad category of seatwork or Q&A, low-track classrooms engaged in activities such as filling in the blanks, answering true-false questions, and working on punctuation and grammar far more than high-track classrooms. One of the risks of such a highly structured approach, and the general preoccupation with order in low-track classrooms, is that students may find instruction less interesting and meaningful. Another risk of such instruction is that it is likely to be fragmented. In English classrooms, intertextuality—the process of alluding to another text during a textual analysis, or linking texts in order to better understand the literary elements of a text—is an important element of literature instruction. Page and Caughlan and Kelly found lower incidences of intertextuality in low-track classrooms, which contributed to a lack of coherence across lessons. Another important element of literature instruction that was missing in the low-track classroom was the linking of literature to students' lives, including their imagined future life as students, members of the workforce, and heads of households. Perhaps as a result of the highly structured but also fragmented instruction in low-track classrooms, researchers have observed that low-track students are frequently off-task. Using the National

Longitudinal Survey (base year 1988), William Carbonaro found that high-track students had higher levels of effort, in part because of beliefs that they were competent, but also because of more intellectually stimulating instruction.

It is important to note, however, that not all low-track teachers take such a teacher-centered approach to instruction. In fact, in Applebee et al.'s study, low-track classrooms were actually somewhat more likely than high-track classrooms to engage in imaginative writing and writing involving personal experience.

### Future Directions

Tracking is a widespread educational process that, unfortunately, contributes significantly to educational inequality. Although some low-track classrooms are rich instructional environments, all too often students and teachers respond negatively to being in a low-track environment. The instruction that results has reduced academic content and proceeds in a manner that is less engaging to students. Despite the convincing evidence on the differences between high- and low-track classrooms, researchers disagree sharply about what is to be done about tracking. Some call for the wholesale detracking of schools, whereas others call for incremental reform of tracking systems to meet the intended goal of optimal instruction for all students.

There is not enough rigorous research on wholesale detracking to evaluate its effects on educational inequality. However, research addressing incremental reform of tracking has arisen in studies of sector differences in tracking systems, teacher tracking, and track assignment criteria. This research demonstrates that relatively small changes in the way tracking is enacted, such as encouraging all students to take more academic courses, can improve learning opportunities for low-track students. Moreover, the studies on instructional effects of tracking reviewed in this entry frequently contain exceptions to the rule, such as low-track classrooms where high achievement is the norm. It seems likely that the pernicious effects of tracking could be greatly reduced through a process of incremental change.

*Sean Kelly*

*See also* Motivation; Peer Influences; Self-Efficacy; Vocational Education

### Further Readings

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## TRIARCHIC THEORY OF INTELLIGENCE

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The triarchic theory of intelligence represents a way of understanding intelligence in broader terms than is the case for traditional theories.

*Intelligence* is defined in terms of the ability to achieve success in life in terms of one's personal standards, within one's sociocultural context. The field of intelligence has, at times, tended to put the cart before the horse, defining the construct conceptually on the basis of how it is operationalized rather than vice versa. This practice has resulted in tests that stress the academic aspect of intelligence, as one might expect, given the origins of modern intelligence testing in the work of Binet and Simon in designing an instrument that would distinguish children who would succeed from those who would fail in school. But the construct